ABSTRACT OF THE DISCLOSURE

The method for preventing seismic liquefaction of ground in a built-up urban area where a loose fine grained layer 2 vulnerable to seismic liquefaction is underlain with a soft cohesive layer 3 liable to uneven settlement caused by lowering of groundwater table comprises a couple of sequential stages.

The first stage is to lower the groundwater table in said loose fine grained layer 2 down to its bottom level for aerating it by pumping pore water out of it.

The pore water thus pumped out is made to flow down through said soft cohesive layer 3 and further down into a deep permeable section 25 while an adequate amount of compressed air supplied by an air compressor 18 is injected into said deep permeable section 25.

By the combined effect of upward acting forces of groundwater and the compressed air at the pressure suitably higher than the groundwater pressure at the bottom level of said soft cohesive layer 3 and said compressed air is automatically supplied reciprocally with said groundwater counteracts effectively the downward acting force caused by lowering of groundwater table in said loose fine grained layer 2 so that any uneven settlement harmful to buried utilities is prevented.

In the second stage, a suitable amount of the tap-water which is made overly saturated with air dissolved in it, its pressure is regulated suitable for its underground use and an adequate dose of micro particles of mineral powder treated to be harmless for its underground use at the depth below buried utilities together with a required dose of diffusing agent for preventing aggregation of said mineral powder prepared in a regulating tube 28 is made to permeate into the aerated pore voids of the loose fine grained layer 2 gently so as to cause the air overly dissolved in said tap-water to bubble out of solution.

After the tap-water permeates into all the pore voids of the loose fine grained layer and the water supply is cut to make the tap-water head fall, countless tiny air

bubbles swarming around the micro cores of said mineral powder dissolved out of said tap-water will be formed in the pore voids of said loose fine grained layer.

This will make the saturation degree in said loose fine grained layer low enough so that any seismic liquefaction of it does not occur during a violent earthquake.